

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

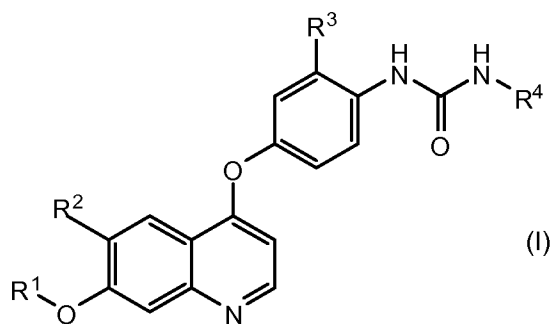
Listing of Claims:

1-11. (Cancelled).

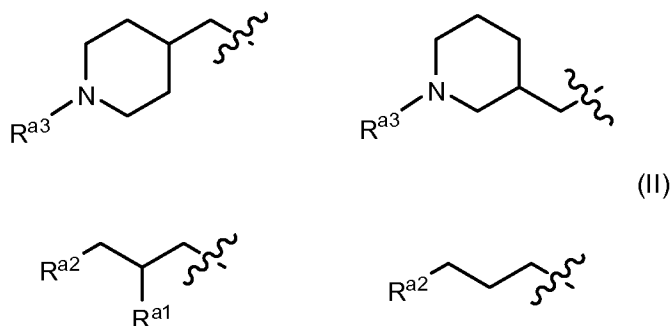
12. (Previously presented) A method for treating a cancer in a patient, comprising:

a) determining if the patient's cancer expresses c-Kit kinase or a mutant c-Kit kinase;  
and

b) if the cancer is determined to express c-Kit kinase or a mutant c-Kit kinase,  
administering to the patient a pharmacologically effective dose of a compound represented by  
the general formula (I) or a pharmaceutically acceptable salt thereof:



wherein R<sup>1</sup> represents methyl, 2-methoxyethyl or a group represented by the formula II:



wherein  $R^{a3}$  represents methyl, cyclopropylmethyl or cyanomethyl;  $R^{a1}$  represents hydrogen, fluorine, or hydroxyl; and  $R^{a2}$  represents 1-pyrrolydiny, 1-piperidiny, 4-morpholinyl, dimethylamino or diethylamino;

$R^2$  represents cyano or  $-\text{CONHR}^{a4}$  wherein  $R^{a4}$  represents hydrogen,  $\text{C}_{1-6}$  alkyl,  $\text{C}_{3-8}$  cycloalkyl,  $\text{C}_{1-6}$  alkoxy or  $\text{C}_{3-8}$  cycloalkoxy;

$R^3$  represents hydrogen, methyl, trifluoromethyl, chlorine or fluorine; and

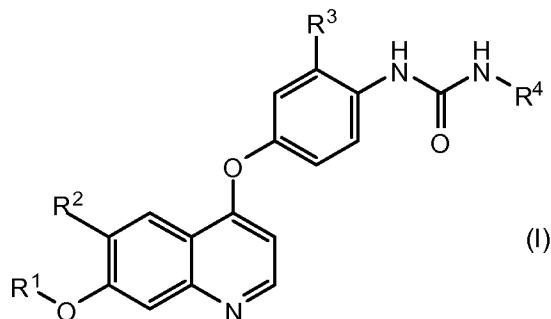
$R^4$  represents hydrogen, methyl, ethyl, n-propyl, cyclopropyl, 2-thiazolyl or 4-fluorophenyl.

13. (Cancelled).

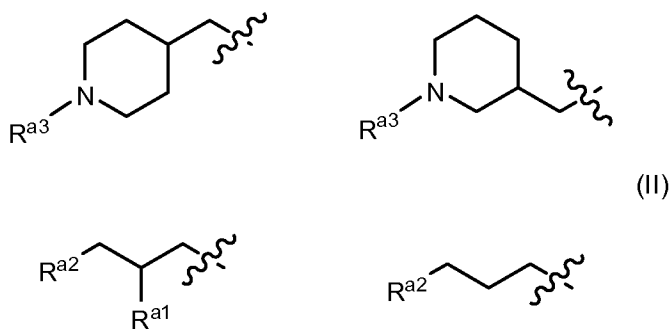
14. (Previously presented) The method of claim 12, wherein the cancer is acute myelogenous leukemia, a small cell lung cancer, or GIST.

15. (Cancelled).

16. (Previously presented) A method for treating mastocytosis, allergy, or asthma comprising administering to a patient suffering from one or more of the diseases a pharmacologically effective dose of a compound represented by the general formula (I), or a pharmaceutically acceptable salt thereof:



wherein R<sup>1</sup> represents methyl, 2-methoxyethyl or a group represented by the formula II:



wherein R<sup>a3</sup> represents methyl, cyclopropylmethyl or cyanomethyl; R<sup>a1</sup> represents hydrogen, fluorine, or hydroxyl; and R<sup>a2</sup> represents 1-pyrrolydiny, 1-piperidinyl, 4-morpholinyl, dimethylamino or diethylamino;

R<sup>2</sup> represents cyano or -CONHR<sup>a4</sup> wherein R<sup>a4</sup> represents hydrogen, C<sub>1-6</sub> alkyl, C<sub>3-8</sub> cycloalkyl, C<sub>1-6</sub> alkoxy or C<sub>3-8</sub> cycloalkoxy;

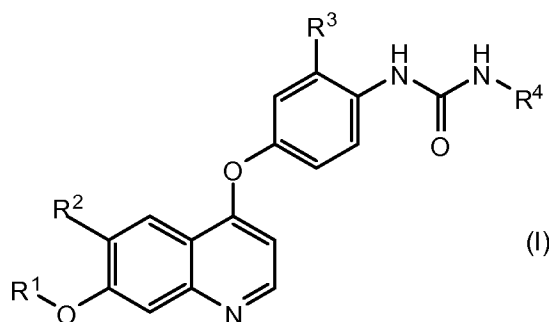
R<sup>3</sup> represents hydrogen, methyl, trifluoromethyl, chlorine or fluorine; and

R<sup>4</sup> represents hydrogen, methyl, ethyl, n-propyl, cyclopropyl, 2-thiazolyl or 4-fluorophenyl.

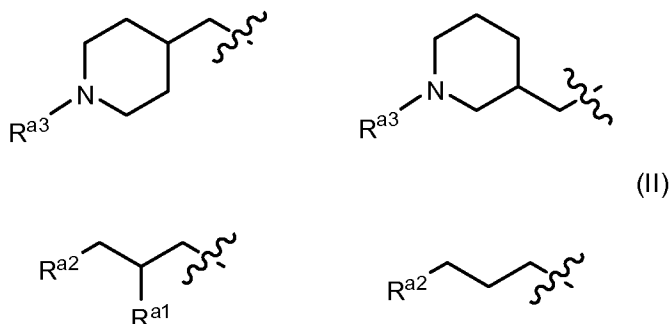
17. (Previously presented) A method comprising:

a) determining if a cell expresses c-Kit kinase or a mutant c-Kit kinase; and

b) if the cell is determined to express c-Kit kinase or a mutant c-Kit kinase, applying to the cell a pharmacologically effective dose of a compound represented by the general formula (I), or a salt thereof:



wherein R<sup>1</sup> represents methyl, 2-methoxyethyl or a group represented by the formula II:



wherein R<sup>a3</sup> represents methyl, cyclopropylmethyl or cyanomethyl; R<sup>a1</sup> represents hydrogen, fluorine, or hydroxyl; and R<sup>a2</sup> represents 1-pyrrolydiny, 1-piperidiny, 4-morpholiny, dimethylamino or diethylamino;

R<sup>2</sup> represents cyano or -CONHR<sup>a4</sup> wherein R<sup>a4</sup> represents hydrogen, C<sub>1-6</sub> alkyl, C<sub>3-8</sub> cycloalkyl, C<sub>1-6</sub> alkoxy or C<sub>3-8</sub> cycloalkoxy;

R<sup>3</sup> represents hydrogen, methyl, trifluoromethyl, chlorine or fluorine; and

R<sup>4</sup> represents hydrogen, methyl, ethyl, n-propyl, cyclopropyl, 2-thiazolyl or 4-fluorophenyl.

18. (Previously presented) The method of claim 12, wherein the compound represented by the formula (I) is 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide.

19. (Cancelled).

20. (Previously presented) The method of claim 17, wherein the compound represented by the formula (I) is 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide.

21. (Previously presented) The method of claim 12, wherein the cancer is mast cell leukemia, testicular cancer, ovarian cancer, breast cancer, brain cancer, neuroblastoma, or colorectal cancer.

22. (Previously presented) The method of claim 12, wherein the c-Kit kinase or mutant c-Kit kinase is activated.

23. (Previously presented) The method of claim 12, wherein the c-Kit kinase or mutant c-Kit kinase is phosphorylated.

24. (Previously presented) The method of claim 12, wherein the expression of c-Kit kinase or mutant c-Kit kinase is excessive.

25. (Previously presented) The method of claim 12, wherein the determining step comprises extracting cells from the patient.

26. (Previously presented). The method of claim 25, wherein the extracted cells comprise cancer cells.

27. (Currently amended) The method of claim 17, wherein the cell is a cancer cell or a mast cell, ~~or an eosinophil.~~

28. (Previously presented) The method of claim 27, wherein the cancer cell is a mast cell leukemia, testicular cancer, ovarian cancer, breast cancer, brain cancer, neuroblastoma, or colorectal cancer cell.

29. (Previously presented) The method of claim 27, wherein the cancer cell is a myelogenous leukemia, a small cell lung cancer or a GIST cancer cell.

30. (Previously presented) The method of claim 12, wherein the compound is administered orally or parenterally.

31. (Previously presented) The method of claim 17, wherein the c-Kit kinase or mutant c-Kit kinase is activated.

32. (Previously presented) The method of claim 17, wherein the c-Kit kinase or mutant c-Kit kinase is phosphorylated.

33. (Previously presented) The method of claim 17, wherein the expression of c-Kit kinase or mutant c-Kit kinase is excessive.

34. (Previously presented) The method of claim 17, wherein the determining step comprises extracting cells from the patient.

35. (Previously presented) The method of claim 16, wherein the compound is administered orally or parenterally.

36. (Previously presented) The method of claim 12, wherein the cancer is determined to express a mutant c-Kit kinase.

Applicant : Yamamoto et al.  
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37. (Previously presented) The method of claim 17, wherein the cell is determined to express a mutant c-Kit kinase.